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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,606	02/20/2004	Robert L. Heimann	EL021RH-2	1566

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ORSCHELN MANAGEMENT CO
2000 US HWY 63 SOUTH
MOBERLY, MO 65270

EXAMINER

LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1775

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/783,606	HEIMANN ET AL.	
	Examiner	Art Unit	
	Michael La Villa	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,7,8,10,12-16,18-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,7,8,10,12-16,18-22 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20060715</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 July 2006 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:
3. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 19 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding Claim 19, it is unclear how applicant derives antecedent support for this claim. With respect to Claim 19, it is unclear where the Specification teaches coating layers comprised of silicate and silica as claimed. It is not apparent that applicant provided explanations when amending claims to this form. It is not otherwise apparent how such claims are supported.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:
6. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1, 4, 5, 7, 8, 10, 12-16, 18-22, and 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
8. Regarding Claims 1, 19, and 24, it is unclear what materials are encompassed by the term "silicate." Can these be organic silicates? Can these be silicates without oxygen? Can this be silica or SiO_2 ? Silicates often are referred to in the context of being solid compounds soluble in water, as opposed to a species in water. Does the claim mean that the medium comprises materials obtained from dissolving at least one silicate? Is the meaning different when referring to the material in a medium in Claim 1, as opposed to a deposited layer in Claims 19 and 24.
9. Regarding Claim 1, it is unclear whether the term "silica" necessarily means " SiO_2 ." With respect to Claim 1, is the meaning different when referring to the silica species in a medium as opposed to the composition of a layer being silica? Does silica in the medium mean "colloidal silica"?
10. Regarding Claims 10 and 12, it is unclear what is meant by the claim dependency from Claim 2, as Claim 2 is not pending.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

12. A person shall be entitled to a patent unless –

13. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1, 4, 5, 7, 8, 10, 12-16, 18, 20, and 21 are rejected under 35

U.S.C. 102(b) as being anticipated by Kushida et al. USPN 5,091,224 for the reasons of record in the Office Action mailed on 29 November 2005.

15. Claims 1, 4, 5, 7, 8, 10, 12-16, 19-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Osman et al. WO 00/06808 for the reasons of record in the Office Action mailed on 29 November 2005. Osman et al teaches a laminated structure of steel, zinc, and silica containing layer. See Osman et al. (page 14, lines 14-26). Osman identifies SiO₂ in the coating layer. The claims refer to silicate and silica, both of which may be SiO₂.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 1, 4, 5, 7, 8, 10, 12-16, 18-22, and 24-26 are rejected under 35 U.S.C.

103(a) as being unpatentable over Heimann et al. USPN 6,153,080. Heimann et al. teaches coating a zinc substrate with solution derived from dopant, silica, and silicate to form a silicate and silica coating that may be further coated with an epoxy layer. Heimann et al. teaches that the claimed rust prevention performance can be obtained. See Heimann et al. (Abstract; col. 3, lines 32-40; col. 4, line 31 through col. 5, line 56; col. 6, line 55 through col. 7, line 64; col. 13, lines 3-49; col. 17, lines 15-52; and Claims 3, 4-9, 15, and 18). Heimann et al. does not exemplify this laminate, but teaches that it is effective for providing a metal protection coating. It would have been obvious to one of ordinary skill in the art at the time of the invention to form the laminate described by Heimann as effective in order to provide a metal protection coating.

Response to Amendment

19. In view of applicant's amendments and arguments, the claim objection and the section 102 rejection over Zimmerman of the Office Action mailed on 29 November 2005 are overcome and therefore withdrawn.

20. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Kushida of the Office Action mailed on 29 November 2005. Applicant argues that Kushida does not teach a layer comprising silica, silicate, and dopant. With respect to Claim 1, however, the claimed layer is silica. The presence of dopant in the medium does not necessarily imply that the layer comprises dopant. Rejection is maintained.

21. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Osman of the Office Action mailed on 29 November 2005. Applicant argues that Osman requires chromate, whereas applicant's invention avoids the use of chromate. Osman provides coatings that include Mo, for example, that avoid the use of chromate. Moreover, the amount of chromate in Osman's coatings, when chromate is present, is small, meeting the claimed "substantially free" and "about 0" language of applicant's claims.

Conclusion


22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.

23. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1775

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa
21 January 2007


MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER